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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,513	10/31/2005	Richard William Ross Urwin	08180002US	6175
7055 7590 12/11/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER BERGIN, JAMES S				
ART UNIT		PAPER NUMBER		
3641				
NOTIFICATION DATE		DELIVERY MODE		
12/11/2007		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com

pto@gbpatent.com

Office Action Summary**Application No.**

10/524,513

Applicant(s)

URWIN, RICHARD WILLIAM ROSS

Examiner

James S. Bergin

Art Unit

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 and 42 is/are pending in the application.
- 4a) Of the above claim(s) 8, 10, 12-14, 16, 18, 28, 30, 32-34, 36 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 11, 15, 17, 19-27, 29, 31, 35, 37, 39, 40 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-846)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority (as noted in the Application data sheet filed 10/31/2005) based on an application filed in United Kingdom on 08/12/2002. It is noted, however, that applicant has not filed a copy of the certified copy of the GB 0119502.3 application as required by PCT Rule 17.2(a).

Information Disclosure Statement

2. The information disclosure statement filed 2/14/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Although previously considered by a previous examiner, the current examiner requests a copy of AU 23776/84 A, listed on the 2/14/2005 IDS and also listed on the International Search Report of parent PCT/

Drawings

3. The drawings, filed 2/14/2005 are objected to because they are not of an acceptable quality for publication in any patent issuing from this application. Specifically, the drawings and lines are blurry and consequently it is difficult to ascertain the delineation between the various structural components of the invention.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the cavity

in the shaped charge having a cylindrical shape (claims 15 and 35), the metal liner comprising a ballistic disk (claims 20 and 40), and the projectile including an aperture facing the metal liner of the shaped charge (claims 6 and 26) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6, 15, 20, 26, 35 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Regarding claims 6 and 26, it is not understood in what sense the projectile includes an aperture facing the metal liner of the shaped charge. The drawings do not clearly show this feature.
8. Regarding claims 15 and 35 it is not understood in what sense the cavity of the shaped charge has a cylindrical shape. The drawings do not clearly show this feature.
9. Regarding claims 20 and 40, it is not understood in what sense the metal liner is a ballistic disk. The drawings do not clearly show this feature.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-5, 7, 9, 11, 17, 19, 21-25, 27, 29, 31, 37, 39, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bilek (US 3,404,600) in view of Sweetman (US 2,796,833).
12. Regarding claims 1 and 21, Bilek discloses a shaped charge and projectile combination (Fig. 3) including: projectiles 11; a shaped charge 14 of high explosive material including a cavity in an external face of the shaped charge, the shaped charge being shaped to axially concentrate explosive upon detonation of the shaped charge towards the projectile; and a metal liner 16 between the shaped charge and the projectile, the metal liner forming a jet of

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liner material on detonation of the shaped charge to impact a rear of the projectiles 11 and propel the projectiles. Bilek discloses in col. 3, lines 60-65 that the liner 16 can be made from *"any suitable and well-known material"* and that *"the liner assists in focusing the shock wave onto the projectiles"*. Bilek does not specifically disclose that the liner is made from metal. Sweetman discloses the liner 7 made from *"a suitable metal commonly used for shaped charge liners, such as copper, brass, aluminum, steel and the like"* (col. 21 lines 50-55). In view of Sweetman, it would have been obvious to one of ordinary skill in the art at the time of invention to select one of Sweetman's suitable metals as the liner material 16 in Bilek, and so avail of a metal commonly used for shaped charge liners.

13. Regarding claim 42, the rear ends of the projectiles 11 inherently resist heat to some degree and for at least some increment of time.

14. Regarding claims 2 and 22, see Bilek's casing 1 of the cartridge depicted in at least Fig. 3.

15. Regarding claims 3 and 23, Bilek's projectiles 11 are retained within the cavity in the shaped charge.

16. Regarding claims 11 and 31, Bilek's projectiles 11 are bullet shaped.

17. Regarding claims 4, 5, 24, and 25, Bilek's projectiles 11 are ballistically shaped and have a front end, but have not been disclosed as comprising a layer of temperature resistant material included at the rear end. The examiner takes official notice that inclusion of a temperature resistant layer of carbon or titanium or tungsten or ceramics or steel or uranium or depleted uranium or any

equivalent thereof at a rear end of a projectile so as to protect the rear end from heat damage was well known in the art and would have been obvious to one of ordinary skill in the art at the time that the invention was made.

18. Regarding claims 7, 9, 27 and 29, the examiner takes official notice that a projectile including stabilization means including dimples or grooves was well known in the art and would have been obvious to one of ordinary skill in the art at the time that the invention was made.

19. Regarding claims 17 and 37, the examiner takes official notice that arranging a shaped charge to be detonated by a firing pin was well known in the art and would have been obvious to one of ordinary skill in the art at the time that the invention was made.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the attached PTO FORM 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Bergin whose telephone number is 571-272-6872. The examiner can normally be reached on Monday - Wednesday and Friday, 8.30 - 5.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James S. Bergin/
Primary Examiner, Art Unit 3641